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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/714,490	CHASMAWALA ET AL.	
	Examiner	Art Unit	
	Kenan Cehic	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-25 and 27-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-25 and 27-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/ are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/15/2005 and 05/02/2005* .
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claim 2,23,24, 26-28, and 37 is withdrawn in view of the newly discovered reference(s) to Schmidt et al. (6,167,258). Rejections based on the newly cited reference(s) follow.

Claim Objections

2. Claim 23, 59 objected to because of the following informalities:

For claim 23, the limitation "a first data message" in line 4, creates ambiguity. It seems to refer back to claim 1 line 11. If this is true it is suggested to change this limitation to --said first data message--. Else a distinction needs to be made.

For claim 59, for the "or" in line 8, the applicant seems to be referring to "of".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 23, 38-54, 58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 23, the claim limitation "the first data message" in line 7 is unclear. It is not clear if the limitation refers to the same limitation in claim 23 line 4 or claim 1 line 11.

For claim 38, the limitations "data for the at least one of the one or more inputs and the one or more outputs" in line 16-17 is not clear. It is not clear if the applicant is referring to the inputs/outputs of the first or second device.

For claim 38, the limitation "the first data message comprises data for the at least one of the one or more inputs and the one or more outputs, wherein the first data message contains one of input data and output data" in line 15-18 is indefinite. The statement is contradictory since it first indicates that the data message has both input and output data, then states that the message has one of input data and output data.

For claim 53, it is not clear how one can trigger an transmission of data from a "one of the one or more inputs".

For claim 58, the claim limitation "from the at least one of the one or more inputs and the one or more outputs" in line 18-19 is not clear. It is not clear if applicant is referring to the first or second network device inputs/outputs.

Dependent claims are rejected since they depend on rejected claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 4, 7-12, 16-19, 22-25, 28, 30, 34, 35-37, 55-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Schmidt et al. (6,167,258).

For claim 1, Schmidt discloses a communication network (see fig. 1; 16,20,2,40,60), wherein the communication network (see fig. 1; 16,20,2,40,60) comprises:

a plurality of network devices (see fig 1, 16, 40, 60) coupled to the communication network (see fig. 1; 16,20,2,40,60, 62, 18), wherein the plurality of network devices (see fig 1, 16, 40, 60) are operable to communicate with each other over the communication network (see fig. 1; 16,20,2,40,60, 62, 18) by transmitting and receiving one or more data messages (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50);

a first network device (see Figure 1, 16,20,12) of the plurality of network devices (see fig 1 16, 40, 60), wherein the first network device comprises at least one of one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or one or more outputs (see column 5 lines 4-5); and

a second network device (see Figure 1; 40, 60) of the plurality of network devices (see fig 1 16, 40, 60), wherein the second network device is coupled (see Figure 1 and column 5 lines 18-20; the basic station is coupled with a PC) to a first computer system (see fig 1, 60);

wherein a first data message of the one or more data messages (see col 5 lines 25-35 "programmed by....radio frequency of signals" and column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet")

comprises user configurable data (see column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC ; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals"), wherein the user configurable data (see column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC ; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") is configured using the first computer system (see column 5 18-35, column 8 lines 4-9, and col 7 lines 10-30), wherein the first data message (see col 5 lines 25-35 "programmed by....radio frequency of signals" and column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12

"transmitted...message packet") contains data for one of a first of the one or more inputs and a second of the one or more inputs (see col 7 lines 20-35 "several input channels" and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 14 lines 33-55 "programmable firmware...conditioning and processing of any type, character and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 14 lines 33-55 "programmable firmware...conditioning and processing of any type, character and range of the external inputs");

wherein the network devices (see fig 1, 40, 60) are further operable to transmit a configuration data message , wherein the configuration data message (see col 5 lines 15-35 "program the signal processing module...through data interface cable....or by radio frequency...of signal transmitted between a base station ...o the signal processing module") specifies content of the one or more data messages (see column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC ; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data"), wherein the configuration data message (see col 5 lines 15-35 "program the signal processing module...through data interface cable....or by radio frequency...of signal transmitted between a base station ...o the signal processing module") is created in response to said configuring (see column 5 lines 15-45 "personal

computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals").

For claim 3, Schmidt teaches wherein said configuring (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") comprises the user configurable data (see column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC ; also see column 14 lines 40-50) and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data") is being configured using a graphical configuration tool (see column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC) on the first computer system (see column 5 lines 18-21

and Figure 1, the PC is used for the reprogramming and it has a graphical configuration tool i.e. the monitor).

For claim 4, Schmidt teaches wherein each one of the plurality of network devices comprises one or more of a transmitter and a receiver (see column 5 lines 34-38) operable to said transmit and said receive the one or more data messages (see column 7 lines 26-30 and column 5 lines 2-12; data packets are sent from the signal processing module to the base station ; see column 8 lines 4-9, base station sends signal to signal processing module) .

For claim 7, Schmidt teaches wherein the first data message comprises one or more channels of analog data (see column 7 lines 30 – 34 and column 6 lines 5-9; multiple input channels are grouped into a single packet, and the inputs can be analog) , wherein each one of the one or more channels of analog data comprises at least one byte of data (see column 7 lines 24-27, note plurality of bytes).

For claim 8, Schmidt teaches wherein the first data message comprises one or more channels of discrete data (see column 7 lines 30 – 34 and column 7 lines 2-3; multiple input channels are grouped into a single packet, and the inputs can be digital) , wherein each one of the one or more channels of discrete data comprises at least one bit of data (see column 7 lines 24-27, note plurality of bytes).

For claim 9, Schmidt teaches wherein the first data message comprises one or more channels of analog data (see column 7 lines 30 – 34 and column 6 lines 5-9; multiple input channels are grouped into a single packet, and the inputs can be analog) ; wherein the first data message further comprises one or more channels of discrete data (see column 7 lines 30 – 34 and column 7 lines 2-3; multiple input channels are grouped into a single packet, and the inputs can be digital) ; and wherein the first data message is operable to combine one or more of the one or more channels of analog data and the one or more channels of discrete data (see column 7 lines 30 – 34, column 6 lines 5-9 , column 7 lines 2-3; multiple input channels are grouped into a single packet, and the inputs can be analog or digital) .

For claim 10, Schmidt teaches wherein the user configurable data is operable to be stored in a configuration file data (see column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC ; also see column 14 lines 40-50; it is inherent that a software program, and its associated files, is stored as a file); and wherein the configuration file is operable to be used by one or more applications on the first computer system (see column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC ; also see column 14 lines 40-50; it is inherent that a software program, and its associated files, is stored as a file and executed as a program) .

For claim 11, Schmidt teaches wherein the communication network (see Figure 1) comprises one or more of:

any other type of an industrial network (see Figure 1; wireless network is present).

For claim 12, Schmidt teaches a graphical program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs graphical software to do display; also see Figure 1, the PC 60 has a display inteface) that is operable to communicate with one of the first network device and the second network device (see column 5 lines 18-21; the PC can program both the basic station and the single processing module, thus it communicates with them; it is done by software inherently);

wherein the first data message is operable to be received (see column 7 lines 26-30 and column 5 lines 2-12 and column 5 lines 38-43; data packets are sent from the signal processing module to via radio frequency to the base station and then to the PC) and processed by the graphical program (see column 5 lines 38-43; PC displays/analyzes the data).

For claims 16, 34, Schmidt teaches wherein the graphical program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs software to do this; also see Figure 1, the PC 60 has a display

inteface) is operable to perform one or more of: a test and measurement function (see column 6 lines 29-36; measurements and tests are made)

For claims 17 and 35, Schmidt teaches wherein the graphical program is operable to be executed (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs executable software; also see Figure 1, the PC 60 has a display inteface).

For claim 18, Schmidt teaches an application program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs software to do this; also see Figure 1, the PC 60 has a display interface) that is operable to communicate (see fig 1; 16; 18; 40) with one or more of the first network device (see Figure 1, 16,20,12) and the second network device (see Figure 1; 40, 60);

wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") is operable to be received and processed by the application program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs software to do this; also see Figure 1, the PC 60 has a display interface);

wherein the application program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs software to do this; also see Figure 1, the PC 60 has a display interface) comprises a program

created in one or more any other program development environment (see column 5 lines 39-43; the PC receives data from the basic station and displays it; it is inherent is needed to communication and displaying and it is also inherent that this software was developed in a program development environment).

For claim 19, Schmidt teaches wherein the first network device further comprises one or more modules (see Figure 3, this is the basic station of Figure 1);
wherein a first of the one or more modules on the first network device comprises a network interface (see Figure 3; note base receiver and transmitter), wherein the network interface is operable to communicate on the communication network by said transmitting (see column 5 line 38-43; base station can transmit) and said receiving the one or more data messages (see column 4 line 66 through column 5 line 12; the signal processing module sends packets to the receiving base station);
and wherein a second of the one or more modules on the first network device (see Figure 3; references 86, 861 and 64)
comprises at least one of the one or more inputs (see Figure 1 ; note reference 62 and column 5 lines 26-32; the computer is inputting programming information into the base station via interface 62) and the one or more outputs (see Figure 1 reference 64 and column 8 lines 16-19; interface 64 outputs data to PC) .

For claim 22, 36, Schmidt disclose the one or more data messages can be transmitted (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134") upon

one or more of the following events: change of a state (see col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable")

For claim 37, Schmidt discloses wherein the first network device (see Figure 1, 16,20,12) contains a first data channel and a second data channel (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels"), wherein each channel can be either an input (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels"); wherein the first network device (see Figure 1, 16,20,12) is operable to transmit a first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and a second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet"); and wherein the first data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a first event using (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") the first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and the second data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") using the second data message see column 7

lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet").

For claim 24, Schmidt discloses wherein an acquisition (see col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") of a first of the at least one of the one or more inputs (see col 7 lines 20-35 "several input channels") or the one or more outputs by the first device (see fig 1; 16) is operable to trigger a transmission (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134") of data from a second of the at least one of the one or more outputs (see column 5 lines 4-5 and fig 1; 20) on the first device (see fig 1; 16).

For claim 25, Schmidt teaches a flexible network system for network data transmission, wherein the data transmission occurs over a network, the flexible system comprising:
a first network device and a second network device(see Figure 1; signal processing module, basic station and reference 60 are in a network), wherein both the first network device and the second network device are coupled to the network(see Figure 1 and column 5 lines 2-5; signal processing module and basic station are communicating), wherein the
first network device (see fig 1;16) and the second network device (see fig 1;40) are operable to communicate with each other using (see fig 1; 18) the communication network by transmitting and receiving (see fig 1; 18) one or more

data messages (see column 7 lines 26-38 and column 5 lines 2-12 & lines 26-34; data packets are sent from the signal processing module, via radio waves, to the base station and base station sends signals to signal processing module), wherein the first network device (see fig 1;16) comprises at least one of one or more

inputs (see column 4 line 66 through column 5 line 2) and one or more outputs (see column 5 lines 4-5), wherein the second network device comprises at least

one of one or more inputs (see Figure 3; see base receiver) and one or more outputs (see Figure 3; see base transmitter) ; and

a graphical configuration tool (see fig 1; 60) operable to configure contents (col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 14 lines 33-55 "programmable firmware...conditioning and processing of any type, character and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 14 lines 33-55 "programmable firmware...conditioning and processing of any type, character and range of the external inputs") of a first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") of the one or more data messages (see column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC ; also see column 14 lines 40-50), wherein said configuring operates on both the first network

device and the second network device (see column 5 lines 26-34; both base station and signal processing module are reprogrammed)

wherein the first network device is operable to generate the first data message (see column 7 lines 26-38 and column 5 lines 2-12; data packets are sent from the signal processing module to via radio frequency to the base station),

wherein the first data message is operable to be propagated and received by the second network device (see column 7 lines 26-38 and column 5 lines 2-12; data packets are sent from the signal processing module to via radio frequency to the base station), wherein the first data message groups together one of a first of the one or

more inputs and a second of the one or more inputs (see column 7 lines 30 – 34; multiple input channels are grouped into a single packet), wherein the configuration data message (see col 5 lines 15-35 "program the signal processing module…through data interface cable….or by radio frequency…of signal transmitted between a base station …o the signal processing module") is created in response to said configuring (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution….firmware running in the microcontroller can selectively transmit …acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller….to accept that range and characteristic of signals").

For claim 28, Schmidt discloses the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 14 lines 10-40 "RF message") further comprises data from the at least one of the one or more inputs (see col 7 lines 20-35 "several input channels") and the one or more outputs (see col 14 lines 10-21 " transmits a "filler" byte...even number ...").

For claim 30, Schmidt teaches and a graphical program executing on the computer system (see Figure 1; note PC 60 is connected to the base station), wherein the graphical program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs software to do this; also see Figure 1, the PC 60 has a display interface; it has to be a graphical program to display data) is operable to communicate with one or more of the first network device and the second network device (see column 5 lines 18-21 and 39-43; the PC can display, monitor, analyze the data and program the signal processing module, through receiving by the base station; it inherently needs software to do this; thus it communicates wit both the signal processing module and base station);

wherein the first data message is operable to be received (see column 7 lines 26-38 and column 5 lines 2-12 & lines 26-34; data packets are sent from the signal processing module, via radio waves, to the base station and base station sends signals to signal processing module by the graphical program) and processed by the graphical program (see column 5 lines 38-43; PC displays/analyzes the data).

For claim 37, Schmidt discloses wherein the first network device (see Figure 1, 16,20,12) contains a first data channel and a second data channel (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels"), wherein each channel can be either an input (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels"); wherein the first network device (see Figure 1, 16,20,12) is operable to transmit a first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and a second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet"); and wherein the first data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a first event using (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") the first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and the second data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a second event (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") using the second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet").

For claim 55, Schmidt disclose a communication network (see fig 1; 16, 18, 40, 60), wherein the communication network (see fig 1; 16, 18, 40, 60) comprises: a plurality of network devices (see fig 1, 16, 40, 60) coupled to the communication network (see fig. 1; 16,20,2,40,60, 62, 18), wherein the plurality of network devices are operable to communicate with each other (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50) over the communication network (see fig. 1; 16,20,2,40,60, 62, 18) by transmitting and receiving one or more data messages (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50);

a first network device (see Figure 1, 16,20,12) of the plurality of network devices (see fig 1 16, 40, 60), wherein the first network device comprises at least one of one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or one or more outputs (see column 5 lines 4-5); and

a second network device (see Figure 1; 40, 60) of the plurality of network devices (see fig 1 16, 40, 60), wherein the second network device is coupled (see Figure 1 and column 5 lines 18-20; the basic station is coupled with a PC) to a first computer system (see fig 1, 60);

wherein a first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") of the one or more data messages (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50) comprises user configurable data (see column 5 lines 15-45 "personal computer, contain

software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals"), wherein the user configurable data (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") is configured using the first computer system (see column 5 18-35, column 8 lines 4-9, and col 7 lines 10-30), wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") contains data for one of a first of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") and a second of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") ;

wherein the one or more data messages (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") can be

transmitted (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") upon one or more of the following events:; change of a state (see col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable"); reaching a predetermined level (see col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable");

wherein the first network device (see Figure 1, 16,20,12) contains a first data channel and a second data channel (see col 7 lines 20-35 "several input channels") , wherein each channel can be either an input (see col 7 lines 20-35 "several input channels") ;

wherein the first network device (see Figure 1, 16,20,12) is operable to transmit a first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and a second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet"); and wherein the first data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a first event using (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") the first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and the second data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col

13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") using the second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet").

For claim 56, Schmidt disclose a communication network (see fig 1; 16, 18, 40, 60), wherein the communication network (see fig 1; 16, 18, 40, 60) comprises:
a plurality of network devices (see fig 1, 16, 40, 60) coupled to the communication network (see fig. 1; 16,20,2,40,60, 62, 18), wherein the plurality of network devices are operable to communicate with each other (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50) over the communication network (see fig. 1; 16,20,2,40,60, 62, 18) by transmitting and receiving one or more data messages (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50);
a first network device (see Figure 1, 16,20,12) of the plurality of network devices (see fig 1 16, 40, 60), wherein the first network device comprises at least one of one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or one or more outputs (see column 5 lines 4-5); and
a second network device (see Figure 1; 40, 60) of the plurality of network devices (see fig 1 16, 40, 60), wherein the second network device is coupled (see Figure 1 and column 5 lines 18-20; the basic station is coupled with a PC) to a first computer system (see fig 1, 60); wherein a first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") of the one or more

data messages (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50) comprises user configurable data (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals"), wherein the user configurable data (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") is configured using the first computer system (see column 5 18-35, column 8 lines 4-9, and col 7 lines 10-30), wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") contains data for one of a first of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") and a second of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels"); wherein an acquisition (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and

col 13 line 65 – col 14 line 10 "transmitting the RF message 134") of a first of the at least one of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or the one by the first network device (see Figure 1, 16,20,12) is operable to trigger a transmission of data see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") from a second of the at least one of the one or more outputs (see fig 1; 20, 18) on the first network device (see Figure 1, 16,20,12).

For claim 57, Schmidt discloses a flexible network system (see fig. 1; 16,20,2,40,60, 62, 18) for network data transmission (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134"), wherein the data transmission (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") occurs over a network (see fig. 1; 16,20,2,40,60, 62, 18), the flexible system (see fig. 1; 16,20,2,40,60, 62, 18) comprising: a first network device (see Figure 1, 16,20,12) and a second network device (see Figure 1; 40, 60) , wherein both the first network device (see Figure 1, 16,20,12) and the second network device (see Figure 1; 40, 60) are coupled to the network (see fig 1, 18), wherein the first network device (see Figure 1, 16,20,12) and the second network device see Figure 1; 40, 60) are operable to communicate with each other (see column 7 lines

26-38 and column 5 lines 2-12; and col 5 lines 1-50) over the communication network (see fig. 1; 16,20,2,40,60, 62, 18) by transmitting and receiving one or more data messages (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50), wherein the first network device (see Figure 1, 16,20,12) comprises at least one of one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or one or more outputs (see column 5 lines 4-5), wherein the second network device (see Figure 1; 40, 60) comprises at least one of one or more inputs or one or more outputs (see fig 1; 42 64); and

a graphical configuration tool (see fig 1; 60) operable to configure contents (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") of a first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") of the one or more data messages (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") , wherein said configuring operates on both (see column 5 lines 18-21; the PC can program both the basic station and the single processing module) the first network device (see Figure 1,

16,20,12) and the second network device (see Figure 1; 40, 60);

wherein the first network device (see Figure 1, 16,20,12) is operable to generate the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134"), wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") is operable to be propagated (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") and received by the second network device (see col 5 lines 15-50 "personal computer...monitor, analyze" and col 8 lines 25-50 "received signal"), wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") groups together one of a first of the one or more inputs and a second of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") wherein each one of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") is operable to acquire one or more of analog and discrete data (see column 7 lines 30 – 34, column 6 lines 5-9 , column 7 lines 2-3; multiple input channels are grouped into a single packet, and the inputs can be analog or digital); and

wherein each one of the one or more outputs (see fig 1; 18, 64) is operable to generate

one or more of analog (see fig 1; 18) and discrete data (see fig 1; 64).

For claim 58, Schmidt discloses a flexible network system (see fig. 1; 16,20,2,40,60, 62, 18) for network data transmission (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134"), wherein the data transmission (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") occurs over a network (see fig. 1; 16,20,2,40,60, 62, 18), the flexible system (see fig. 1; 16,20,2,40,60, 62, 18) comprising: a first network device (see Figure 1, 16,20,12) and a second network device (see Figure 1; 40, 60) , wherein both the first network device (see Figure 1, 16,20,12) and the second network device (see Figure 1; 40, 60) are coupled to the network (see fig 1, 18), wherein the first network device (see Figure 1, 16,20,12) and the second network device see Figure 1; 40, 60) are operable to communicate with each other (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50) over the communication network (see fig. 1; 16,20,2,40,60, 62, 18) by transmitting and receiving one or more data messages (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50), wherein the first network device (see Figure 1, 16,20,12) comprises at least one of one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") and one or more outputs (see column 5 lines 4-5), wherein the second network device (see Figure 1; 40, 60) comprises at least one of one or more inputs or one

or more outputs (see fig 1; 42 64) ; and

a graphical configuration tool (see fig 1; 60) operable to configure contents (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") of a first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") of the one or more data messages (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") , wherein said configuring operates on both (see column 5 lines 18-21; the PC can program both the basic station and the single processing module) the first network device (see Figure 1, 16,20,12) and the second network device (see Figure 1; 40, 60);

wherein the first network device (see Figure 1, 16,20,12) is operable to generate the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134"), wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF

message 134") is operable to be propagated (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") and received by the second network device (see col 5 lines 15-50 "personal computer...monitor, analyze" and col 8 lines 25-50 "received signal"), wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") groups together one of a first of the one or more inputs and a second of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels"); and

wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") further comprises data from the at least one of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") and the one or more outputs (see col 14 lines 10-21 " transmits a "filler" byte...even number ...").

For claim 59, Schmidt a flexible network system (see fig. 1; 16,20,2,40,60, 62, 18) for network data transmission (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134"), wherein the data transmission (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single

packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") occurs over a network (see fig. 1; 16,20,2,40,60, 62, 18), the flexible system (see fig. 1; 16,20,2,40,60, 62, 18) comprising: a first network device (see Figure 1, 16,20,12) and a second network device (see Figure 1; 40, 60) , wherein both the first network device (see Figure 1, 16,20,12) and the second network device (see Figure 1; 40, 60) are coupled to the network (see fig 1, 18), wherein the first network device (see Figure 1, 16,20,12) and the second network device see Figure 1; 40, 60) are operable to communicate with each other (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50) over the communication network (see fig. 1; 16,20,2,40,60, 62, 18) by transmitting and receiving one or more data messages (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50), wherein the first network device (see Figure 1, 16,20,12) comprises at least one of one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or one or more outputs (see column 5 lines 4-5), wherein the second network device (see Figure 1; 40, 60) comprises at least one of one or more inputs or one or more outputs (see fig 1; 42 64); and

a graphical configuration tool (see fig 1; 60) operable to configure contents (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range

and characteristic of signals") of a first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") of the one or more data messages (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") , wherein said configuring operates on both (see column 5 lines 18-21; the PC can program both the basic station and the single processing module) the first network device (see Figure 1, 16,20,12) and the second network device (see Figure 1; 40, 60);

wherein the first network device (see Figure 1, 16,20,12) is operable to generate the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134"), wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") is operable to be propagated (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") and received by the second network device (see col 5 lines 15-50 "personal computer...monitor, analyze" and col 8 lines 25-50 "received signal"), wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF

message 134") groups together one of a first of the one or more inputs and a second of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels");

wherein the one or more data messages (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") can be transmitted (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") upon one or more of the following events:; change of a state (see col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable"); reaching a predetermined level (see col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable");

wherein the first network device (see Figure 1, 16,20,12) contains a first data channel and a second data channel (see col 7 lines 20-35 "several input channels") , wherein each channel can be either an input (see col 7 lines 20-35 "several input channels");

wherein the first network device (see Figure 1, 16,20,12) is operable to transmit a first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and a second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet"); and wherein the first data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a first event using (see col 13 line 65 – col 14 line 10 "transmitting

the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") the first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and the second data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") using the second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 5 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (6,167,258), hereinafter Schmidt, in view of Pewzner et al. (US 2007/0179366 A1)

For claim 5 and 27, Schmidt teaches all the claimed invention as described in paragraph 5 2. Schimdt does not teach that the inputs and outputs have digital and analog capabilities. Pewzner et al. from the same or similar field of endeavor teaches a device wherein each one of the one or more inputs is operable to acquire one or more of analog and discrete data (see section 0185); and

wherein each one of the one or more outputs is operable to generate one or more of analog and discrete data (see section 0185).Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include inputs and outputs have digital and analog capabilities as taught by Pewzner et al into the data acquisition system as taught by Schmidt. One could have implemented the A/D unit with analog/digital inputs and outputs as taught by Pewzner et al. into the signal processing module as taught by Schmidt. For example one could have replaced the input means and

A/D converter as taught by Schmidt in Figure 2. The motivation, for claims 5 and 27, is that the device can receive digital and analog signals as suggested by Pewzner et al (section 0185), in order to extend capabilities.

7. Claims 6, 29, are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (6,167,258), hereinafter Schmidt, in view of Stoneking et al. (US 6,606,670 B1)

For claim 6, Schmidt et al teaches all the claimed invention as described in paragraph 5. Schmidt et al., additionally teaches, for claim 6, wherein at least one of the one or more data messages comprises at least one channel of one or more (see column 7 lines 30 – 34; multiple input channels are grouped into a single packet) of analog data and discrete data (column 6 lines 5-9 and column 7 lines 2-3; input signals can be either analog or digital); and it is (see column 15 lines 5-8; see identification signal) identified the data for the one or more channels in the first data message (see column 15 lines 5-8; input channels are identified).

For claim 29, Schmidt et al., additionally teaches for claim 29, wherein the first data messages comprises data for one or more channels of one or more (see column 7 lines 30 – 34; multiple input channels are grouped into a single packet) of analog data or discrete data (column 6 lines 5-9 and column 7 lines 2-3; input signals can be either analog or digital, wherein each channel can be either an input (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") ; and it is (see column 15 lines 5-8; see identification signal) identified the data for the one or more channels in the first data message (see column 15 lines 5-8; input channels are identified).

Schmidt does not teach that this identification is sent with the message via an ID. Stoneking et al. from the same or similar field of endeavor teaches wherein the first data message comprises one or more message arbitration IDS (see column 18 lines 57-60; ID inside message identifies channel). Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include an identification field in a message which identifies a channel as taught by Stoneking et al. into the data acquisition system as taught by Schmidt. One would have been able to the steps as shown in Figure 9 of Stoneking et al (where step 912 is the channel identification step) into the microcontroller of the signal processing module as taught by Schmidt in Figure 2. The motivation is that one has a specific identification of the channel that acquired the data, inside the message which actually carries the acquired data. Thus the receiving software/user is able to determine quickly to which input channel the data belongs.

8. Claims 13-15, 20, 31-33, are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (6,167,258) in view of Kodosky et al. (5,475,851)

For claims 13-15, and 31-33, Schmidt teaches all the claimed invention as described in paragraph 5. However, Schmidt does not teach:

A plurality of interconnected nodes that visually indicate functionality of the graphical program, as recited in claim 13.

A block diagram portion and user interface, as recited in claim 14.

A graphical data flow program, as recited in claim 15.

Data logging, as recited in claim 20.

Kodosky et al. from the same or similar field of endeavor teaches :

For claims 13, 31,Kodosky et al. teaches graphical program comprises a plurality of interconnected nodes (see Figure 22 and 43; note the interconnected nodes) that visually indicate functionality of the graphical program (see Figure 22 and 43; the nodes indicate the functionality of the program).

For claim 14, 32, Kodosky et al. teaches graphical program comprises a block diagram portion (see Figure 3, Figure; Block diagram) and a user interface portion (see Figure 124).

For claims 15, 33,Kodosky et al. teaches a graphical data flow program (see column 6 lines 10-16, also see title and Figure 43 and 158 for a graphical data flow program).

For claim 20, Kodosky et al. teaches where a device is used in data logging (see column 40 line 66 through column 41 line 2)

Thus it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to incorporate the plurality of interconnected nodes that visually indicate functionality of the graphical program, a block diagram portion and user interface, and A graphical data flow program as taught by Kodosky et al. into the data acquisition system as taught by Schmidt. One could have installed the software (such as LabView) that provides those graphical features on the PC (Figure 1, reference 60 of Schmidt). One would have been able to install the needed software and possibly hardware to implement the software features as taught by Kodosky et al. The motivation, for claim

13-15 and 31-33, is that the user is able to read and adjust the values of variables during program execution (see column 6 lines 11-16 of Kodosky et al.) and to visual the program flow.

The motivation for claim 20 is that one is able to save the results of data acquisitions

9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (6,167,258) in view of Haas et al. (US 7,098,037)

For claim 21, Schmidt et al. teaches all the claimed invention as described in paragraph 5. Schmidt et al. does not teach that the first device is capable of simulating a device. Tomlinson et al. from the same or similar field of endeavor teaches wherein a first network device is operable to simulate a production device (see column 11 lines 27-30). Thus it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to incorporate the simulation device as taught by Haas et al. into the data acquisition system as taught by Schmidt et al. One could have implemented the calibration/instrument data as taught by Haas et al. via software in the microcontroller as taught by Schmidt in Figure 3, reference 86 and 861. This microcontroller and memory, can store software that simulates devices which would send simulated data to a PC, as in Figure 1 reference 60 as taught by Schmidt et al. The motivation is to minimize instrument-specific spectral attributes (see column 11 lines 21-23 of Haas et al).

10. Claim 38, 39, 41, 45-51, 53, 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (6,167,258) in view of Wang et al. (US 5,289,464)

For claim 38, Schmidt disclose a method for configuring network communication (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals" and column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC ; also see column 14 lines 40-50), between a plurality of network devices (see fig 1, 16, 40, 60), the method comprising:

coupling (see fig 1, 18) a first network device (see Figure 1, 16,20,12) out of the plurality of network devices (see fig 1, 16, 40, 60) to a network (see fig 1, 16, 40, 60);

coupling a second network device (see Figure 1; 40, 60) out of the plurality of network devices to the network (see fig 1, 16, 40, 60), wherein the network (see fig 1, 16, 40, 60) is operable to communicate one or more data messages (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 14 lines 10-40 "RF message") between the first network device (see Figure 1, 16,20,12) and the second network device (see Figure 1; 40, 60) , wherein each of the first network device (see Figure 1, 16,20,12) and the second network device (see Figure 1; 40, 60) comprises at least one of one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input

channels" and fig 18; 42) and one or more outputs (see fig 1; 20, 42, 64) , wherein the second network device (see Figure 1; 40, 60) is coupled to a first computer system (see Figure 1 and column 5 lines 18-20; the basic station is coupled with a PC); configuring (see column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC ; also see column 14 lines 40-50 and column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") the at least one of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") and the one or more outputs (see fig 1; 20) on the first network device (see Figure 1, 16,20,12); configuring a first data message of the one or more data messages (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 14 lines 10-40 "RF message"), wherein the first data message comprises data for the at least one of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") and the one or more outputs (see col 14 lines 10-21 " transmits a "filler" byte...even number ..."), wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 14 lines 10-40 "RF message") contains one of input data (see column 4 line 66

through column 5 line 2 and col 7 lines 20-35 "several input channels") and output data (see col 14 lines 10-21 " transmits a "filler" byte...even number ..."); and propagating the first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 14 lines 10-40 "RF message") from the first network device (see fig 1; 20, 18, 42) to the second network device (see fig 1; 20, 18, 42).

For claim 39, Schmidt discloses wherein the first data message is operable to be propagated and received by the second network device (see column 7 lines 26-38 and column 5 lines 2-12; data packets are sent from the signal processing module to via radio frequency to the base station), wherein the first data message groups together one of a first of the one or more inputs and a second of the one or more inputs (see column 7 lines 30 – 34; multiple input channels are grouped into a single packet), wherein the configuration data message (see col 5 lines 15-35 "program the signal processing module...through data interface cable....or by radio frequency...of signal transmitted between a base station ...o the signal processing module") is created in response to said configuring (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-

10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals").

For claim 41, Schmidt teaches a graphical program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs graphical software to do display; also see Figure 1, the PC 60 has a display inteface) that is operable to communicate with one of the first network device and the second network device (see column 5 lines 18-21; the PC can program both the basic station and the single processing module, thus it communicates with them; it is done by software inherently);
wherein the first data message is operable to be received (see column 7 lines 26-30 and column 5 lines 2-12 and column 5 lines 38-43; data packets are sent from the signal processing module to via radio frequency to the base station and then to the PC) and processed by the graphical program (see column 5 lines 38-43; PC displays/analyzes the data).

For claim 45, Schmidt teaches wherein the graphical program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs software to do this; also see Figure 1, the PC 60 has a display inteface) is operable to perform one or more of: a test and measurement function (see column 6 lines 29-36; measurements and tests are made)

For claim 46, Schmidt et al teaches executing the graphical program (see fig 1; 60).

For claim 47, Schmidt teaches an application program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs software to do this; also see Figure 1, the PC 60 has a display interface) that is operable to communicate (see fig 1; 16; 18; 40) with one or more of the first network device (see Figure 1, 16,20,12) and the second network device (see Figure 1; 40, 60);

wherein the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") is operable to be received and processed by the application program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs software to do this; also see Figure 1, the PC 60 has a display interface);

wherein the application program (see column 5 lines 39-43; the PC can display, monitor, analyze the data and program the signal processing module; it inherently needs software to do this; also see Figure 1, the PC 60 has a display interface) comprises a program created in one or more any other program development environment (see column 5 lines 39-43; the PC receives data from the basic station and displays it; it is inherent is needed to communication and displaying and it is also inherent that this software was developed in a program development environment).

For claim 48, Schmidt discloses wherein said configuring (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") the at least one of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or one or more outputs (see column 5 lines 4-5) on the first network device (see Figure 1, 16,20,12) comprises user graphically (see Figure 1; 40, 62,60) configuring the at least one of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or one or more outputs (see column 5 lines 4-5) on the first network device (see Figure 1; 40, 62,60).

For claim 49, Schmidt discloses wherein said configuring (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") the at least one of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or one or more

outputs (see column 5 lines 4-5) on the second network device (see fig 1;16) comprises user graphically (see fig 1; 16, 60, 64) configuring (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") the at least one of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or one or more outputs (see column 5 lines 4-5) on the second network device (see fig 1; 16, 60, 64).

For claim 50, Schmidt discloses wherein said configuring see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") the first data message of the one or more data messages (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") comprises user graphically configuring (see fig 1; 16, 60, 64) the first data message of the one or more data messages (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12

"transmitted...message packet").

For claim 51, Schmidt disclose the one or more data messages can be transmitted (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134") upon one or more of the following events: change of a state (see col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable")

For claim 52, Schmidt discloses wherein the first network device (see Figure 1, 16,20,12) contains a first data channel and a second data channel (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels"), wherein each channel can be either an input (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels"); wherein the first network device (see Figure 1, 16,20,12) is operable to transmit a first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and a second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet"); and wherein the first data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a first event using (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") the first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and the second data

channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a second event (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") using the second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet").

For claim 53, Schmidt discloses wherein an acquisition (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") of a first of the at least one of the one or more inputs (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") and the one or more outputs (see column 5 lines 4-5) by the first device (see Figure 1, 16,20,12) is operable to trigger a transmission of data (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") from a second of the at least one of the one or more inputs and the one or more outputs (see column 5 lines 4-5) on the first device (see Figure 1, 16,20,12).

For claim 54, Schmidt discloses wherein the first network device (see Figure 1, 16,20,12) is operable to send the first data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet")

to the second network device (see fig 1 ;40, 62,60) over the communications network (see fig 1; 18).

Schmidt is silent about:

As regarding claim 38, configuring the at least one of the one or more inputs and the one or more outputs on the second network device;

Wang from the same or similar field of endeavor discloses a communication system with the following features:

As regarding claim 38, Wang discloses configuring the at least one of the one or more inputs (see col 1 lines 10-30 "receiver and transmitter tuned to a particular frequency") and the one or more outputs (see col 1 lines 10-30 "receiver and transmitter tuned to a particular frequency") on the second network device (see col 1 lines 10-30 "base station");

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Schmidt by using the features, as taught by Wang, in order to have multiple base stations that are in communication with mobile terminals use different channels thus not interfering with each other, this makes roaming of the wireless terminal possible (see col 1)

11. Claims 40, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (6,167,258) and Wang et al. (US 5,289,464), as applied to claim 38/51 above, further in view of Stoneking et al. (US 6,606,670 B1)

For claim 40 and 52, Schmidt and Wang discloses the claimed invention as described in paragraph 10.

For claim 40, Schmidt et al teaches all the claimed invention as described in paragraph 2. Schmidt et al., additionally teaches wherein at least one of the one or more data messages comprises at least one channel of one or more (see column 7 lines 30 – 34; multiple input channels are grouped into a single packet) of analog data and discrete data (column 6 lines 5-9 and column 7 lines 2-3; input signals can be either analog or digital); and it is (see column 15 lines 5-8; see identification signal) identified the one or more channels in the first data message (see column 15 lines 5-8; input channels are identified).

For claim 52, Schmidt et al., additionally teaches for claim 29, wherein the first data messages comprises data for one or more channels of one or more (see column 7 lines 30 – 34; multiple input channels are grouped into a single packet) of analog data or discrete data (column 6 lines 5-9 and column 7 lines 2-3; input signals can be either analog or digital, wherein each channel can be either an input (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") ; and it is (see column 15 lines 5-8; see identification signal) identified the data for the one or more channels in the first data message (see column 15 lines 5-8; input channels are identified).

Schmidt does not teach that this identification is sent with the message via an ID. Stoneking et al. from the same or similar field of endeavor teaches wherein the first data

message comprises one or more message arbitration IDS (see column 18 lines 57-60; ID inside message identifies channel). Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include an identification field in a message which identifies a channel as taught by Stoneking et al. into the data acquisition system as taught by Schmidt. One would have been able to the steps as shown in Figure 9 of Stoneking et al (where step 912 is the channel identification step) into the microcontroller of the signal processing module as taught by Schmidt in Figure 2. The motivation is that one has a specific identification of the channel that acquired the data, inside the message which actually carries the acquired data. Thus the receiving software/user is able to determine quickly to which input channel the data belongs.

12. Claims, 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (6,167,258) in view of Kodosky et al. (5,475,851)

For claims, 42-44 Schmidt teaches all the claimed invention as described in paragraph 10. However, Schmidt does not teach:

A plurality of interconnected nodes that visually indicate functionality of the graphical program, as recited in claim 42.

A block diagram portion and user interface, as recited in claim 43.

A graphical data flow program, as recited in claim 44.

Kodosky et al. from the same or similar field of endeavor teaches :

For claims 42 Kodosky et al. teaches graphical program comprises a plurality of interconnected nodes (see Figure 22 and 43; note the interconnected nodes) that visually

indicate functionality of the graphical program (see Figure 22 and 43; the nodes indicate the functionality of the program).

For claim 43 Kodosky et al. teaches graphical program comprises a block diagram portion (see Figure 3, Figure; Block diagram) and a user interface portion (see Figure 124).

For claims 44 Kodosky et al. teaches a graphical data flow program (see column 6 lines 10-16, also see title and Figure 43 and 158 for a graphical data flow program).

Thus it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to incorporate the plurality of interconnected nodes that visually indicate functionality of the graphical program, a block diagram portion and user interface, and A graphical data flow program as taught by Kodosky et al. into the data acquisition system as taught by Schmidt. One could have installed the software (such as LabView) that provides those graphical features on the PC (Figure 1, reference 60 of Schmidt). One would have been able to install the needed software and possibly hardware to implement the software features as taught by Kodosky et al. The motivation, for claim 42-44, is that the user is able to read and adjust the values of variables during program execution (see column 6 lines 11-16 of Kodosky et al.) and to visual the program flow.

13. Claims, 60, 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (6,167,258) in view of Gareis et al. (US 2003/0074498) and Cook (US 5,313,386)

For claim 60, Schmidth discloses A network device (see fig 1; 16) for use in a network (see fig 1; 20, 18, 42), wherein the network device comprises:

a network interface (see fig 1; 20), wherein the network interface (see fig 1; 20) is coupled to a network (see fig 1; 20, 18, 42), wherein the network interface (see fig 1; 20) is operable to communicate (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") with one or more network devices (see fig 1; 42, 40) using the network by transmitting (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") and receiving (see column 7 lines 26-38 and column 5 lines 2-12; and col 5 lines 1-50) one or more network data messages (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134");

wherein the contents (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") of a first network data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14

line 10 "transmitting the RF message 134") of the one or more network data messages message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") can be configured (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") using a graphical configuration tool (see fig 1; 60), wherein the graphical configuration tool (see fig 1; 60) executes on a computer (see fig 1; 60), wherein the computer (see fig 1; 60) is coupled to the network (see fig 1; 60, 40,42), wherein the graphical configuration tool (see fig 1; 60) is operable to configure (see column 5 lines 18-21; the PC can program both the basic station and the single processing module) the contents (see column 5 lines 15-45 "personal computer, contain software whish is used to program the signal processing module", column 7 lines 19-30, column 8 lines 4-9; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data" and col 6 lines 5-10 "input means is programmed by the module microcontroller....to accept that range and characteristic of signals") of the first network data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13

line 65 – col 14 line 10 "transmitting the RF message 134") by transmitting a configuration data message (see col 5 lines 15-35 "program the signal processing module...through data interface cable....or by radio frequency...of signal transmitted between a base station ...o the signal processing module") to the network device (see fig 1; 16), wherein the configuration data message (see col 5 lines 15-35 "program the signal processing module...through data interface cable....or by radio frequency...of signal transmitted between a base station ...o the signal processing module") specifies content (see column 5 lines 18-21, column 7 lines 19-30, column 8 lines 4-9; one can program the microcontroller, which produces/formats the digital stream of packets, in the signal processing module via the PC ; also see column 14 lines 40-50 and col 12 lines 10-25 "programmed either 16 bit or 24 bit resolution....firmware running in the microcontroller can selectively transmit ...acquired data") of the first network data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134"); wherein the network interface (see fig 1; 20) is operable to generate and propagate the first network data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") to one or more network devices (see fig 1; 40), wherein the first network data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF

message 134") contains data from two or more input modules (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") or ; and wherein the first network data message can be transmitted (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134") upon one or more of the following events:; change of a state (see col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable"); reaching a predetermined level (see col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable").

For claim 61, Schmidt discloses wherein the first network device (see Figure 1, 16,20,12) is operable to transmit a first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and a second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet"); and wherein the first data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines 20-35 "several input channels") upon a first event using (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") the first data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet") and the second data channel can be transmitted (see column 4 line 66 through column 5 line 2 and col 7 lines

20-35 "several input channels") upon a second event (see col 13 line 65 – col 14 line 10 "transmitting the RF message 134" and col 13 line 65- col 14 line 10 "RF message has been completely filled.....marks a flag variable") using the second data message see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet").

Schmidt is silent about:

For claim 60, one or more I/O modules, wherein the one or more I/O modules include one or more of one or more input modules or one or more output modules, wherein the input modules are operable to connect to one or more sensors, wherein the output modules are operable to connect to one or more actuators;

a local bus, wherein the local bus couples the network interface and the one or more I/O modules together, wherein the local bus is operable to transmit one or more local bus messages between the network interface and the one or more I/O modules;

Kodosky are from the same or similar field of endeavor discloses a communication network with the following features:

For claim 60, one or more I/O modules (see fig 1; 37-39), wherein the one or more I/O modules (see fig 1; 37-39) include one or more of one or more input modules (see section 0039 "either as an input or as an output point") or one or more output modules (see section 0039 "either as an input or as an output point"), a local bus (see fig 1; 40), wherein the local bus (see fig 1; 40) couples the network interface (see fig 1; 36) and the

one or more I/O modules together (see section 0039 "bus...interconnecting...I/O points...to the microcontroller"), wherein the local bus (see fig 1; 40) is operable to transmit one or more local bus messages (see section 0041 "42 allows the I/O points of that module to be monitored and controlled and provides a display of diagnostic information) between the network interface (see fig 1; 36) and the one or more I/O modules (see fig 1; 37-39);

For claim 61, wherein the network device contains (see fig 1; 24) a first data channel on a first I/O module (see fig 1; 37) and a second data channel on a second I/O module (see fig 1; 38), wherein each channel can be either an input or an output (see section 0039 "either as an input or as an output point");

Cook from the same or similar field of endeavor discloses a communication network with the following features:

For claim 60, Cook discloses wherein the input modules (see "I/O modules") are operable to connect to one or more sensors (see "coupled to individual sensors and actuators"), wherein the output modules (see "I/O modules") are operable to connect to one or more actuators (see "coupled to individual sensors and actuators");

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Schmidt by using the features, as taught by Kodosky and Cook; in order to provide I/O modules that are self-protected against overcurent and overvolatege conditions without use of fuses or circuit breakers and where failures are detected and reported and further providing a I/O system that is simple and economical

(see Kodosky section 0014-0019) in order to sets of data acquisition modules to have status information regarding each other and for providing back up modules, so that processing can continue when an element fails (see Cook col 2)

14. Claims 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (6,167,258) in view of Gareis et al. (US 2003/0074498) and Cook (US 5,313,386) as applied to claim 60 above, further in view of Stoneking et al. (US 6,606,670 B1)

For claim 62, Schmidt, Gareis, Cook discloses the claimed invention as described in paragraph 13.

For claim 62, Shmidt discloses the first network data message (see column 7 lines 05-35 and column 5 lines 2-12; "data packets...single packet" and col 13 line 5-12 "transmitted...message packet" and col 13 line 65 – col 14 line 10 "transmitting the RF message 134")

Schmidt does not teach that this identification is sent with the message via an ID. Stoneking et al. from the same or similar field of endeavor teaches wherein the first data message comprises one or more message arbitration IDS (see column 18 lines 57-60; ID inside message identifies channel). Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include an identification field in a message which identifies a channel as taught by Stoneking et al. into the data acquisition system as taught by Schmidt. One would have been able to the steps as shown in Figure 9 of Stoneking et al (where step 912 is the channel identification step) into the

microcontroller of the signal processing module as taught by Schmidt in Figure 2. The motivation is that one has a specific identification of the channel that acquired the data, inside the message which actually carries the acquired data. Thus the receiving software/user is able to determine quickly to which input channel the data belongs.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US-4,353,482 A	10-1982	Tomlinson et al.	222/1
US-4,813,009 A	03-1989	Tallman, James L.	703/21
US-4,868,785 A	09-1989	Jordan et al.	345/440
US-5,966,532 A	10-1999	McDonald et al.	717/105
US-6,584,419 B1	06-2003	Alexander, Jay A.	702/68
US-2006/0015862 A1	01-2006	Odom et al.	717/168

The above are cited to show system for data acquisition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenan Cehic whose telephone number is (571) 270-3120. The examiner can normally be reached on Monday through Friday 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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KC

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